APPENDIX C AIR QUALITY DATA

CONSTRUCTION EMISSIONS ESTIMATES
DEMOLITION PHASE

Project Number: 10734-00
Project Name: La Canada Flintridge

Construction Equipment Emissions
Emissions = F x G x H

	F	G	H									
		Hours/	Emission Factors in Pounds per Hour[1]					Emissions in Pounds per Day				
Equipment Type	Quantity	Day	CO	ROC	NO_x	SO_x	PM_{10}	CO	ROC	NO_x	SO_x	PM_{10}
Generator Sets	0	2	1.479	0.054	0.002	0.0006	0.00025	-	-	-	-	-
Fork Lift - 50 Hp	0	8	0.18	0.053	0.441	0	0.031	-	-	-	-	-
Fork Lift - 175 Hp	0	5	0.52	0.17	1.54	0	0.93	-	-	-	-	-
Water Truck	0	2	1.8	0.19	4.17	0.45	0.26	-	-	-	-	-
Tracked Loader	0	6	0.201	0.095	0.83	0.076	0.059	-	-	-	-	-
Tracked Tractor	0	6	0.35	0.12	1.26	0.14	0.112	-	-	-	-	-
Scraper	0	7	1.25	0.27	3.84	0.46	0.41	-	-	-	-	-
Wheeled Dozer	0	5	0.572	0.12	0.713	0.35	0.165	-	-	-	-	-
Wheeled Loader	0	5	0.572	0.23	1.9	0.182	0.17	-	-	-	-	-
Wheeled Tractor	0	6	3.58	0.18	1.27	0.09	0.14	-	-	-	-	-
Roller	0	6	0.3	0.065	0.87	0.067	0.05	-	-	-	-	-
Motor Grader	0	6	0.151	0.039	0.713	0.086	0.061	-	-	-	-	-
Miscellaneous	0	6	0.675	0.15	1.7	0.143	0.14	-	-	-	-	-
Crane	0	4	0.75078	0.25026	1.91866	0.16684	0.12513	-	-	-	-	-
Backhoe	0	3.5	0.572	0.23	1.9	0.17	0.182	-	-	-	-	-
Crushing Equipment	0	4	1.9812	0.29718	2.37744	0.19812	0.14859	-	-	-	-	-
Subtotal								0.0	0.0	0.0	0.0	0.0

[1] Emission Factors from SCAQMD CEQA Air Quality Handbook (1993), Tables A9-8-A, A9-8-B, A9-8-C, and A9-8-D.

On-Road Vehicle Source Emissions
Emissions = F x G x H x I

	F	G	H	I									
		Trips/	Miles/	Emission Factors in Pounds per 100 Trips per Mile					Emissions in Pounds per Day				
Vehicle Type	Quantity	Vehicle	Trip	CO	ROC	NO_x	SO_x	PM_{10}	CO	ROC	NO_x	SO_x	PM_{10}
Haul Trucks[2]	0	0	0	1.42511	0.22467	1.982379	0	0.012118	-	-	-	-	-
Construction Employees[3]	0	3.7	-	2.2	0.82	1.16	0	0.22	-	-	-	-	-
Subtotal									0.0	0.0	0.0	0.0	0.0

[2] Emission factors from EMFAC7G (Year 2001, 100% heavy-duty diesel, 90F)
[3] Emission factors from URBEMIS7G (Year 2001, construction worker trips)

Structure Demolition
PM_{10} Emissions = 0.00042 lbs per cubic foot x N / O[4]

	N	O	PM_{10}
	Cubic Feet	Days of	Emissions
Emissions Source	of Bldg.	Demolition	(lbs/day)
Structure Demolition	0	1	0.0

[4] Emission Factors from SCAQMD CEQA Air Quality Handbook (1993), Table A9-9-H.

Total Demolition Phase Emissions

	Emissions in Pounds per Day				
Emissions Source	CO	ROC	NO_x	SO_x	PM_{10}
Construction Equipment	0.0	0.0	0.0	0.0	0.0
On-Road Vehicles	0.0	0.0	0.0	0.0	0.0
Structure Demolition	-	-	-	-	0.0
Total	0.0	0.0	0.0	0.0	0.0
SCAQMD Threshold	550.0	75.0	100.0	150.0	150.0
Exceeds Threshold?	No	No	No	No	No

CONSTRUCTION EMISSIONS ESTIMATES
SITE GRADING PHASE

Project Number: 10734-00
Project Name: La Canada Flintridge

Construction Equipment Emissions
Emissions = F x G x H

	F	G	H									
		Hours/	Emission Factors in Pounds per Hour[1]					Emissions in Pounds per Day				
Equipment Type	Quantity	Day	CO	ROC	NO_x	SO_x	PM_{10}	CO	ROC	NO_x	SO_x	PM_{10}
Generator Sets	0	2	1.479	0.054	0.002	0.0006	0.00025	-	-	-	-	-
Fork Lift - 50 Hp	0	5	0.18	0.053	0.441	0	0.031	-	-	-	-	-
Fork Lift - 175 Hp	0	5	0.52	0.17	1.54	0	0.93	-	-	-	-	-
Water Truck	1	2	1.8	0.19	4.17	0.45	0.26	3.6	0.4	8.3	0.9	0.5
Tracked Loader	0	6	0.201	0.095	0.83	0.076	0.059	-	-	-	-	-
Tracked Tractor	1	6	0.35	0.12	1.26	0.14	0.112	2.1	0.7	7.6	0.8	0.7
Scraper	3	7	1.25	0.27	3.84	0.46	0.41	26.3	5.7	80.6	9.7	8.6
Wheeled Dozer	0	5	0.572	0.12	0.713	0.35	0.165	-	-	-	-	-
Wheeled Loader	0	5	0.572	0.23	1.9	0.182	0.17	-	-	-	-	-
Wheeled Tractor	0	6	3.58	0.18	1.27	0.09	0.14	-	-	-	-	-
Roller	0	6	0.3	0.065	0.87	0.067	0.05	-	-	-	-	-
Motor Grader	4	6	0.151	0.039	0.713	0.086	0.061	3.6	0.9	17.1	2.1	1.5
Miscellaneous	0	6	0.675	0.15	1.7	0.143	0.14	-	-	-	-	-
Subtotal								35.6	7.7	113.7	13.5	11.3

[1] Emission Factors from SCAQMD CEQA Air Quality Handbook (1993), Tables A9-8-A, A9-8-B, A9-8-C, and A9-8-D.

On-Road Vehicle Source Emissions
Emissions = F x G x H x I

	F	G	H	I									
		Trips/	Miles/	Emission Factors in Pounds per 100 Trips per Mile					Emissions in Pounds per Day				
Vehicle Type	Quantity	Vehicle	Trip	CO	ROC	NO_x	SO_x	PM_{10}	CO	ROC	NO_x	SO_x	PM_{10}
Haul Trucks[2]	1	1	50	1.42511	0.22467	1.982379	0	0.012118	0.7	0.1	1.0	0.0	0.0
Construction Employees[3]	18	3.7	-	2.2	0.82	1.16	0	0.22	1.5	0.5	0.8	0.0	0.1
Subtotal									2.2	0.7	1.8	0.0	0.2

[2] Emission factors from EMFAC7G (Year 2001, 100% heavy-duty diesel, 90F)
[3] Emission factors from URBEMIS7G (Year 2001, construction worker trips)

Site Grading
PM_{10} Emissions = (10.0 lbs per day x A) - B[4]

	A	O		PM_{10}
	Acres/	Rule 403 Reduction		Emissions
Emissions Source	Day	%	lbs	(lbs/day)
Site Grading	20	68%	136.0	64.0

[4] Emission Factors from URBEMIS7G (2000).

Total Site Grading Phase Emissions

	Emissions in Pounds per Day				
Emissions Source	CO	ROC	NO_x	SO_x	PM_{10}
Construction Equipment	35.6	7.7	113.7	13.5	11.3
On-Road Vehicles	2.2	0.7	1.8	0.0	0.2
Site Grading	-	-	-	-	64.0
Total	37.8	8.4	115.4	13.5	75.4
SCAQMD Threshold	550.0	75.0	100.0	150.0	150.0
Exceeds Threshold?	No	No	Yes	No	No

CONSTRUCTION EMISSIONS ESTIMATES
CONSTRUCTION PHASE

Project Number: 10734-00
Project Name: La Canada Flintridge

Construction Equipment Emissions
Emissions = F x G x H

	F	G	H									
		Hours/	Emission Factors in Pounds per Hour[1]					Emissions in Pounds per Day				
Equipment Type	Quantity	Day	CO	ROC	NO_x	SO_x	PM_{10}	CO	ROC	NO_x	SO_x	PM_{10}
Generator Sets	6	2	1.479	0.054	0.002	0.0006	0.00025	17.7	0.6	0.0	0.0	0.0
Fork Lift - 50 Hp	2	5	0.18	0.053	0.441	0	0.031	1.8	0.5	4.4	0.0	0.3
Fork Lift - 175 Hp	1	5	0.52	0.17	1.54	0	0.93	2.6	0.9	7.7	0.0	4.7
Water Truck	1	2	1.8	0.19	4.17	0.45	0.26	3.6	0.4	8.3	0.9	0.5
Tracked Loader	0	6	0.201	0.095	0.83	0.076	0.059	-	-	-	-	-
Tracked Tractor	0	6	0.35	0.12	1.26	0.14	0.112	-	-	-	-	-
Scraper	0	7	1.25	0.27	3.84	0.46	0.41	-	-	-	-	-
Wheeled Dozer	0	5	0.572	0.12	0.713	0.35	0.165	-	-	-	-	-
Wheeled Loader	3	5	0.572	0.23	1.9	0.182	0.17	8.6	3.5	28.5	2.7	2.6
Wheeled Tractor	0	6	3.58	0.18	1.27	0.09	0.14	-	-	-	-	-
Roller	1	6	0.3	0.065	0.87	0.067	0.05	1.8	0.4	5.2	0.4	0.3
Motor Grader	0	6	0.151	0.039	0.713	0.086	0.061	-	-	-	-	-
Miscellaneous	0	6	0.675	0.15	1.7	0.143	0.14	-	-	-	-	-
Crane	1	2	0.75078	0.25026	1.91866	0.16684	0.12513	1.5	0.5	3.8	0.3	0.3
Backhoe	2	3.5	0.572	0.23	1.9	0.17	0.182	4.0	1.6	13.3	1.2	1.3
Paving Equipment	1	6	0.675	0.15	1.7	0.143	0.14	4.1	0.9	10.2	0.9	0.8
Subtotal								45.7	9.3	81.5	6.4	10.7

[1] Emission Factors from SCAQMD CEQA Air Quality Handbook (1993), Tables A9-8-A, A9-8-B, A9-8-C, and A9-8-D.

On-Road Vehicle Source Emissions
Emissions = F x G x H x I

	F	G	H	I									
		Trips/	Miles/	Emission Factors in Pounds per 100 Trips per Mile					Emissions in Pounds per Day				
Vehicle Type	Quantity	Vehicle	Trip	CO	ROC	NO_x	SO_x	PM_{10}	CO	ROC	NO_x	SO_x	PM_{10}
Haul Trucks[2]	4	1	50	1.42511	0.22467	1.982379	0	0.012118	2.9	0.4	4.0	0.0	0.0
Construction Employees[3]	30	3.7	-	2.2	0.82	1.16	0	0.22	2.4	0.9	1.3	0.0	0.2
Subtotal									5.3	1.4	5.3	0.0	0.3

[2] Emission factors from EMFAC7G (Year 2001, 100% heavy-duty diesel, 90F)
[3] Emission factors from URBEMIS7G (Year 2001, construction worker trips)

Stationary Source Emissions
Emissions = F x G

	F	G						
		ctors in Pounds per Day			Emissions in Pounds per Day		
Emissions Source	Units or 1,000 sf	ROC	NO_x	PM_{10}	ROC	NO_x	PM_{10}
Stationary Sources	4	0.168	0.137	0.008	0.7	0.5	0.0

[4] Emission Factors from URBEMIS7G (2000).

Asphalt Paving
ROC Emissions = 2.62 lbs per acre x A / B[5]

	A	B	ROC
Emissions Source	Acres of Paving	Days of Paving	Emissions (lbs/day)
Asphalt Paving	0.25	1	0.7

[5] Emission Factors from URBEMIS7G (2000).

Architectural Coatings
ROC Emissions = 0.0185 lbs per square foot x A[6]

	A	
	Surface Area/	ROC Emissions
Emissions Source	Day	(lbs/day)
Architectural Coatings	2500	46.3

[6] Emission Factors from URBEMIS7G (2000).

Total Construction Phase Emissions

	Emissions in Pounds per Day				
Emissions Source	CO	ROC	NO_x	SO_x	PM_{10}
Construction Equipment	45.7	9.3	81.5	6.4	10.7
On-Road Vehicles	5.3	1.4	5.3	0.0	0.3
Stationary Equipment	-	0.7	0.5	-	0.0
Asphalt Paving	-	0.7	-	-	-
Architectural Coatings	-	46.3	-	-	-
Total	51.0	58.2	87.3	6.4	11.0
SCAQMD Threshold	550.0	75.0	100.0	150.0	150.0
Exceeds Threshold?	No	No	No	No	No

CONSTRUCTION EMISSIONS ESTIMATES
LANDSCAPING PHASE

Project Number: 10734-00
Project Name: La Canada Flintridge

Construction Equipment Emissions
Emissions = F x G x H

	F	G	H									
		Hours/	Emission Factors in Pounds per Hour[1]					Emissions in Pounds per Day				
Equipment Type	Quantity	Day	CO	ROC	NO_x	SO_x	PM_{10}	CO	ROC	NO_x	SO_x	PM_{10}
Fork Lift - 50 Hp	0	5	0.18	0.053	0.441	0	0.031	-	-	-	-	-
Fork Lift - 175 Hp	0	5	0.52	0.17	1.54	0	0.93	-	-	-	-	-
Wheeled Dozer	0	5	0.572	0.12	0.713	0.35	0.165	-	-	-	-	-
Wheeled Loader	0	5	0.572	0.23	1.9	0.182	0.17	-	-	-	-	-
Wheeled Tractor	0	6	3.58	0.18	1.27	0.09	0.14	-	-	-	-	-
Miscellaneous	0	6	0.675	0.15	1.7	0.143	0.14	-	-	-	-	-
Subtotal								0.0	0.0	0.0	0.0	0.0

[1] Emission Factors from SCAQMD CEQA Air Quality Handbook (1993), Tables A9-8-A, A9-8-B, A9-8-C, and A9-8-D.

On-Road Vehicle Source Emissions
Emissions = F x G x H x I

	F	G	H	I									
		Trips/	Miles/	Emission Factors in Pounds per 100 Trips per Mile					Emissions in Pounds per Day				
Vehicle Type	Quantity	Vehicle	Trip	CO	ROC	NO_x	SO_x	PM_{10}	CO	ROC	NO_x	SO_x	PM_{10}
Haul Trucks[2]	0	0	0	1.42511	0.22467	1.982379	0	0.012118	-	-	-	-	-
Construction Employees[3]	0	3.7	-	2.2	0.82	1.16	0	0.22	-	-	-	-	-
Subtotal									0.0	0.0	0.0	0.0	0.0

[2] Emission factors from EMFAC7G (Year 2001, 100% heavy-duty diesel, 90F)
[3] Emission factors from URBEMIS7G (Year 2001, construction worker trips)

Soil Disturbance
PM_{10} Emissions = (10.0 lbs per day x A) - B[4]

	A	O	PM_{10}
	Acres/	Rule 403 Reduction	Emissions
Emissions Source	Day	%	lbs	(lbs/day)
Soil Disturbance	0	0%	0.0	0.0

[4] Emission Factors from URBEMIS7G (2000).

Total Site Grading Phase Emissions

	Emissions in Pounds per Day				
Emissions Source	CO	ROC	NO_x	SO_x	PM_{10}
Construction Equipment	0.0	0.0	0.0	0.0	0.0
On-Road Vehicles	0.0	0.0	0.0	0.0	0.0
Soil Disturbance	-	-	-	-	0.0
Total	0.0	0.0	0.0	0.0	0.0
SCAQMD Threshold	550.0	75.0	100.0	150.0	150.0
Exceeds Threshold?	No	No	No	No	No

EXPLANATION OF CHANGES MADE TO DEFAULT SETTINGS IN URBEMIS 2001

Project Number: 10734-00
Project Name: La Canada Tract 53647

The following pages include the printed results of the air pollutant emissions modeling for one of the land use components of the proposed project. The air emissions modeling was conducted using the URBEMIS 2001 for Windows computer program developed for the South Coast Air Quality Management District and the San Joaquin Valley Unified Air Pollution Control District in June 2002. URBEMIS 2001 is programmed with EMFAC 2001 emission factors developed by the California Air Resources Board.

As part of this analysis, changes have been made to several of the default values programmed into URBEMIS 2001. These changes were made to more accurately reflect the nature of the proposed land use. Each of these changes are discussed below.

Vehicle Trip Rates

The default vehicle trip rate values were changed to be consistent with the traffic impact analysis prepared for the project.

Vehicle Fleet Mix

URBEMIS 2001 is programmed with the following state-wide average vehicle fleet mix:

State-Wide Vehicle Type	Total	
Automobiles	61.4%	
Light-Duty Trucks <3,750 pounds	9.3%	
Light-Duty Trucks 3,751-5,750 pounds	16.7%	
Medium-Duty Trucks 5,751-8,500 pounds	7.2%	
Light-Heavy-Duty Trucks 8,501-10,000 pounds	1.1%	
Light-Heavy-Duty Trucks 10,001-14,000 pounds	0.3%	10.40% Total Trucks
Medium-Heavy-Duty Trucks 14,001-33,000 pounds	1.1%	
Heavy-Heavy-Duty Trucks 33,001-60,000 pounds	0.7%	
Line-Haul Vehicles	0.0%	
Urban Buses	0.0%	
Motorcycles	1.4%	
School Buses	0.1%	
Motor Homes	0.7%	

However, this state-wide average fleet mix is not appropriate for the majority of land use analyses. The project land use assessed in this analysis is identified below along with the total percentage of trucks (medium and heavy) that are expected for this land use. The following vehicle mix was calculated based on the percentage of trucks associated with this land use. The percentage of trucks for each land use were determined from the 3rd, 4th, 5th, and 6th Editions of the ITE Trip Generation manual.

Project Land Use:	Truck %	ADT	Truck #
210 Single Family	0.44%	163	1
0		0	0
0		0	0
0		0	0
0		0	0
0		0	0
0		0	0
0		0	0
0		0	0
0		0	0
0		0	0
0		0	0
	Project Totals:	163	1
	Project Truck %:	0.44%	

Vehicle Type	Total	
Automobiles	68.23%	
Light-Duty Trucks <3,750 pounds	10.33%	
Light-Duty Trucks 3,751-5,750 pounds	18.56%	
Medium-Duty Trucks 5,751-8,500 pounds	0.30%	
Light-Heavy-Duty Trucks 8,501-10,000 pounds	0.05%	
Light-Heavy-Duty Trucks 10,001-14,000 pounds	0.01%	0.44% Total Trucks
Medium-Heavy-Duty Trucks 14,001-33,000 pounds	0.05%	
Heavy-Heavy-Duty Trucks 33,001-60,000 pounds	0.03%	
Line-Haul Vehicles	0.00%	
Urban Buses	0.00%	
Motorcycles	1.56%	
School Buses	0.11%	
Motor Homes	0.78%	

URBEMIS 2001 For Windows 6.2.2

File Name: <Not Saved>
Project Name: La Canada Tract 53647
Project Location: South Coast Air Basin (Los Angeles area)

SUMMARY REPORT
(Pounds/Day - Summer)

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	PM10	SO2
TOTALS(lbs/day,unmitigated)	0.86	0.22	0.23	0.00	0.00
TOTALS (lbs/day, mitigated)	0.86	0.22	0.23	0.00	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	PM10	SO2
TOTALS (ppd, unmitigated)	1.97	1.28	20.79	1.20	0.01
TOTALS (ppd, mitigated)	1.97	1.28	20.79	1.20	0.01

URBEMIS 2001 For Windows 6.2.2

File Name: <Not Saved>
Project Name: La Canada Tract 53647
Project Location: South Coast Air Basin (Los Angeles area)

DETAIL REPORT
(Pounds/Day - Summer)

AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)

Source	ROG	NOx	CO	PM10	SO2
Natural Gas	0.02	0.21	0.09	0.00	-
Wood Stoves - No summer emissions					
Fireplaces - No summer emissions					
Landscaping	0.01	0.00	0.13	0.00	0.00
Consumer Prdcts	0.83	-	-	-	-
TOTALS(lbs/day,unmitigated)	0.86	0.22	0.23	0.00	0.00

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	PM10	SO2
Single family housing	1.97	1.28	20.79	1.20	0.01
TOTAL EMISSIONS (lbs/day)	1.97	1.28	20.79	1.20	0.01

Includes correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2008 Temperature (F): 90 Season: Summer

EMFAC Version: EMFAC2001 (10/2001)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Total Trips
Single family housing	9.58 trips / dwelling units	17.00	162.86

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	68.23	4.70	94.50	0.80
Light Truck < 3,750 lbs	10.33	11.00	88.90	0.10
Light Truck 3,751- 5,750	18.56	1.80	97.60	0.60
Med Truck 5,751- 8,500	0.30	12.50	79.20	8.30
Lite-Heavy 8,501-10,000	0.05	18.20	72.70	9.10
Lite-Heavy 10,001-14,000	0.01	0.00	66.70	33.30
Med-Heavy 14,001-33,000	0.05	9.10	27.30	63.60
Heavy-Heavy 33,001-60,000	0.03	0.00	0.00	100.00
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.00	0.00	0.00	100.00
Motorcycle	1.56	90.90	9.10	0.00
School Bus	0.11	0.00	0.00	100.00
Motor Home	0.77	0.00	100.00	0.00

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	11.5	4.9	6.0	10.3	5.5	5.5
Rural Trip Length (miles)	11.5	4.9	6.0	10.3	5.5	5.5
Trip Speeds (mph)	35.0	40.0	40.0	40.0	40.0	40.0
% of Trips - Residential	20.0	37.0	43.0			

Changes made to the default values for Area

The landscape year changed from 2002 to 2008.
Changes made to the default values for Operations

The light auto percentage changed from 61.4 to 68.23.
The light truck < 3750 lbs percentage changed from 9.3 to 10.33.
The light truck 3751-5750 percentage changed from 16.7 to 18.56.
The med truck 5751-8500 percentage changed from 7.2 to 0.30.
The lite-heavy truck 8501-10000 percentage changed from 1.1 to 0.05.
The lite-heavy truck 10001-14000 percentage changed from 0.3 to 0.01.
The med-heavy truck 14001-33000 percentage changed from 1.1 to 0.05.
The heavy-heavy truck 33001-60000 percentage changed from 0.7 to 0.03.
The motorcycle percentage changed from 1.4 to 1.56.
The school bus percentage changed from 0.1 to 0.11.
The motorhome percentage changed from 0.7 to 0.77.
The operational emission year changed from 2002 to 2008.

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10734-00
Project Title: La Canada Flintridge

Background Information

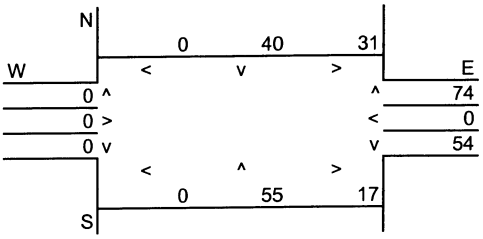
Nearest Air Monitoring Station measuring CO:	Pasadena
Background 1-hour CO Concentration (ppm):	9.0
Background 8-hour CO Concentration (ppm):	5.7
Persistence Factor:	0.7
Analysis Year:	2002

Roadway Data

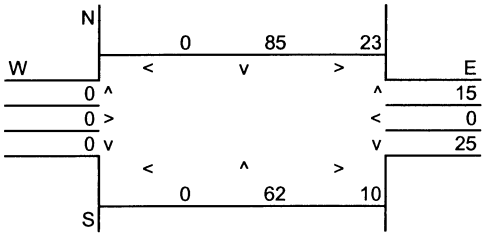
Intersection: Chevy Chase Dr./Figueroa St.
Analysis Condition: Existing Traffic Volumes

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Chevy Chase Dr.	At Grade	2	10	10
East-West Roadway:	Figueroa Dr.	At Grade	2	10	10

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	200	N-S Road:	185
E-W Road:	176	E-W Road:	73

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 Reference CO Concentrations 50 Feet	A_3 Reference CO Concentrations 100 Feet	B Traffic Volume	C Emission Factors[1]	Estimated CO Concentrations 25 Feet	Estimated CO Concentrations 50 Feet	Estimated CO Concentrations 100 Feet
A.M. Peak Traffic Hour								
North-South Road	7.6	5.7	4.0	200	18.24	0.28	0.21	0.15
East-West Road	2.7	2.2	1.7	176	18.24	0.09	0.07	0.05
P.M. Peak Traffic Hour								
North-South Road	7.6	5.7	4.0	185	18.24	0.26	0.19	0.14
East-West Road	2.7	2.2	1.7	73	18.24	0.04	0.03	0.02

[1] Methodology and emission factors from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	9.4	9.3	6.0
50 Feet from Roadway Edge	9.3	9.2	5.9
100 Feet from Roadway Edge	9.2	9.2	5.8

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 10734-00
Project Title: La Canada Flintridge

Background Information

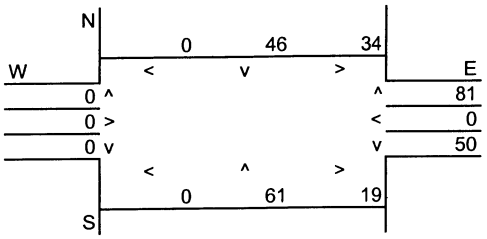
Nearest Air Monitoring Station measuring CO:	Pasadena
Background 1-hour CO Concentration (ppm):	9.0
Background 8-hour CO Concentration (ppm):	5.7
Persistence Factor:	0.7
Analysis Year:	2010

Roadway Data

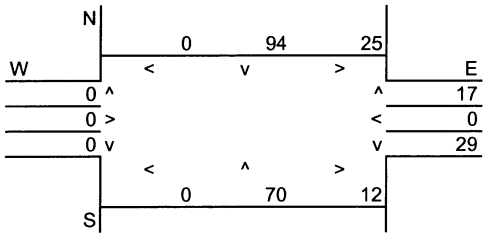
Intersection: Chevy Chase Dr./Figueroa St.
Analysis Condition: Future Plus Project Traffic Volumes

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Chevy Chase Dr.	At Grade	2	10	10
East-West Roadway:	Figueroa Dr.	At Grade	2	10	10

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	222	N-S Road:	206
E-W Road:	184	E-W Road:	83

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 Reference CO Concentrations 50 Feet	A_3 Reference CO Concentrations 100 Feet	B Traffic Volume	C Emission Factors[1]	Estimated CO Concentrations 25 Feet	Estimated CO Concentrations 50 Feet	Estimated CO Concentrations 100 Feet
A.M. Peak Traffic Hour								
North-South Road	7.6	5.7	4.0	222	10.78	0.18	0.14	0.10
East-West Road	2.7	2.2	1.7	184	10.78	0.05	0.04	0.03
P.M. Peak Traffic Hour								
North-South Road	7.6	5.7	4.0	206	10.78	0.17	0.13	0.09
East-West Road	2.7	2.2	1.7	83	10.78	0.02	0.02	0.02

[1] Methodology and emission factors from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	9.2	9.2	5.9
50 Feet from Roadway Edge	9.2	9.1	5.8
100 Feet from Roadway Edge	9.1	9.1	5.8

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).